United States
Environmental Protection
Agency

Office of Solid Waste
and Emergency Response
(OS-120)

May 1988

EPA

Report of a Conference on Risk Communication and Environmental Management

Technical Assistance Bulletin 4
Chemical Emergency Preparedness and Prevention

RISK COMMUNICATION AND ENVIRONMENTAL MANAGEMENT SUMMARY OF CONFERENCE AT TEMPLE UNIVERSITY

Following for your information is a summary of presentations and a way to access further information from a Risk Communication and Environmental Management Conference held in Philadelphia, Pennsylvania, at Temple University. The conference, sponsored in part by the Environmental Protection Agency's Office of Policy, Planning, and Evaluation, included presentations from leading academic researchers and professionals in the field.

The presentations reflect the opinions and judgments from the "experts" in the field and do not necessarily reflect EPA policy. However, the presenters offered tips and common-sense advice that we think you may find valuable. The presentations have special application to issues involving the implementation of the Emergency Planning and Community Right-to-Know Act (Superfund Amendments and Reauthorization Act of 1986, Title III) at the State and local levels as well as to other environmental issues

EPA thanks Temple University for preparing this conference summary.

May 1988

COMMUNICATING ABOUT ENVIRONMENTAL RISK

On November 18, 1987, Temple University hosted a conference* titled "Risk Communication and Environmental Management." Leading academic researchers, experienced and innovative professionals, and concerned community activists came to Philadelphia for a day of talks and discussion. They agreed substantially on what were the major problems involved in effective risk communication and how to solve them. This bulletin presents highlights from the conference, and should be useful to those working in this field.

HAVING THE RIGHT ATTITUDE

A pervasive view at the conference was the importance of getting beyond the "rational expert-irrational public" attitude. Some community activists are technically trained or have become well-informed on specific issues. "Average" members of the public know how and why they feel upset by a situation and this is useful to environmental managers. All those involved in the risk communication process know some things well, though they may have inadequate or biased views of other things.

Communication breakdowns come from three sources: (1) failure to understand the psychology of individuals, (2) complexities of communicating information about risk, and (3) the nature of institutions in which communication takes place.

* Conference Chairpersons: Dr. Grant Krow, Ph.D., Chemistry, Temple U. - Dr. Robert Mason, Ph.D., Geography, Temple U. - Dr. Robert Patterson, Sc.D., Environmental Health Engineering, Temple, U. - Dr. Gerald Zeitz, Ph.D., Human Resource Administration, Temple, U.

1. UNDERSTANDING HUMAN PSYCHOLOGY

A. How people behave:

- People usually process information best when not upset. In a crisis, communication about health hazards is often distorted.

- What upsets people as much as potential hazards is not having any control or input in situations involving them or their families.

- People learn things selectively: they "filter" what they hear based on their experience, information, and interests. For example:

  - Journalists focus on what they feel is controversial, relatively easy to cover, and has appeal to the general public.

  - Community members are most concerned about the well-being of themselves and their families. They often rank issues other than environmental risk as more important to their lives.

  - Risk professionals concentrate on technical estimates of risk, often forgetting that the scientific basis for these estimates may be uncertain and contested.

- Those who must communicate about risk, such as plant managers, are often not trained communicators. Messages get "garbled" and do not come out as intended.

B. How People Estimate Risks:

What average community members see as highly risky is usually different from what poses the greatest actual danger to health. This happens because some risks trigger strong emotional responses while others don't. Extensive news coverage can stir emotion and enhance the "riskiness" of a given hazard.

- People are more upset by risks which are associated with dramatic events (like accidents in which lots of people are killed at one time), or which they feel result from unfairness or immorality.

- People underestimate risks that are very familiar to them (like driving), or those they have some control over.

- People are more tolerant of a risk (such as air pollution from smokestacks) if they feel they receive some benefit from it (needed jobs).

2. THE COMPLEXITY OF INFORMATION ABOUT RISK

A. Probability of health risks:

Explaining something abstract like "probability," and especially very low probability, is inherently difficult. Furthermore, a given hazard may have different probabilities of causing harm to different groups of people. It is the risk communicator's job to explain these probabilities so that the community can make decisions about how environmental protection resources should be allocated. Tips for the communicator:

- *Compare risks:* people may understand unfamiliar risks by comparing them to ones experienced more often.

- *Involve the public* right from the beginning in risk assessment and management so they are part of the decision and understand it better.

- *Listen to what people say* and make them aware of the consequences of choices. This will help produce fairer and more rational decisions.

B. Technical assessment of hazards:

The following guidelines should help the lay public better understand expert risk assessments and more readily accept management decisions.

- *Build trust.* People won't believe what you say unless they have confidence in you and your organization.

Develop a reputation for openness and honesty within your community long before an important event occurs.

- *Be "up front."* Acknowledge your organization's stake in the issues. Provide all of the information that is asked for and understand that how it is used is up to the community.

- *Simplify your language.* Use clear, straightforward lay person's language. Most people don't have much scientific training and won't understand technical jargon. Don't use abbreviations, technical terms, and other insider shortcuts in documents handed out to the public.

3. IMPROVING INSTITUTIONS

A. Organizational barriers to effective communication:

- The multiplicity of organizations and local government jurisdictions means that it is difficult to standardize information and develop centralized data-banks.

- Different professional groups, even located in the same organization, will have different interests and attitudes toward a given risk situation. For instance, lawyers tell companies to avoid saying anything that might lead to litigation, and marketing personnel want to block information that might harm sales.

- People who are called on for answers in a crisis situation frequently do not have first-hand knowledge of the technical issues involved and may not have good lines of communication with those who do know.

Barriers such as these are hard to get rid of completely, but awareness can help minimize them. It is important for risk professionals to try to give speedy and complete information, develop multiple sources of information for the public, work in inter-disciplinary teams when possible, and be very patient with those seeking information.

B. Building better institutions:

Ultimately, good communication depends on genuine respect and sharing of control between the parties involved. This requires new institutions.

- "Bridging organizations," made up of industry, government, and community members, play a vital role by encouraging open discussion of issues, preparing unbiased reports, and stimulating action.

- Local Emergency Planning Committees need to involve all the categories of people required by law in the process of emergency planning. Yet most do not fully understand what is expected of them. Industry needs to help in providing key information for plans.

- Complying with the letter and spirit of right-to-know legislation will greatly enhance risk communication but requires some changed practices. Industry must let go of control over information and will have to take the initiative as bridge-builder with the community. The public must educate themselves on risk choices and alternatives. They must agree on acceptable risk and give up the goal of "zero risk now."

Featured Speakers

BARUCH FISCHOFF, Ph. D., Carnegie Mellon University
Managing Risk Perceptions (30-min. tape)

SUSAN HADDON, Ph. D. , University of Texas
Institutional Barriers to Environmental Risk Communication (30-min. tape)

JONATHAN CHARRY, Ph. D., Environmental Risk Management
Public Health and High Voltage Transmission Lines: Risk Perception and Communication
Commentary: RICHARD BORD, Ph.D. , Pennsylvania State University on Drs. Fischoff, Haddon, and Charry and Q and A Session (60-min. tape)

JOHN E. SLAVICK, Chemical Manufacturers Association
Arguing with Ecclesiastes (30-min. tape)

LEWIS CRAMPTON, William D. Ruckelshaus Assoc.
Risk Communication Insights: The Kanawha Valley, West Virginia Experience
Commentary: JOHN DENWORTH, Esq., P.A. Environmental Council and Q and A Session (60-min. tape)

JACK CAMPBELL, U. S. Environmental Protection Agency
Risk Communication: Accounting for Public Values (30-min. tape)
Commentary: TOM DIETZ, Ph.D. George Mason University, on Jack Campbell and Q and A Session (60-min. tape)

PETER SANDMAN, Ph.D., Rutgers University
Hazard, Outrage, and the Media: Covering Half of the Risk Story (60-min. tape)

CASE STUDY PANEL: *The Envirosafe Case: A Hypothetical Example* (60-min tape)

Risk Communication and Environmental Management, **Temple University Environmental Sciences and Policy Forum, is available on Audiocassette ($4 per cassette, $16 for seminar set) or Videocassette (30-min. tape, $20; 60-min. tape, $25).**

For further information, please call or write to:

Cheryl King, Forum Coordinator, or Gary L. Aughtry, Asst. Coordinator
Office of the Vice Provost for Research and Graduate Studies
Room 406, University Services Building
Temple University
Philadelphia, PA 19122
(215) 787-8692